



## Sequence Listing

<110> Chen, Jian  
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Godowski, Paul L.  
Grimaldi, J.Christopher  
Gurney, Austin  
Li, Hanzhong  
Hillan, Kenneth J.  
Hymowitz, Sarah  
Tumas, Daniel  
Starovasnik, Melissa.  
VanLookeren, Menno  
Vandlen, Richard  
Watanabe, Colin  
Williams, P.Mickey  
Wood, William  
Yansura, Daniel

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ctggtggcca catgggtgct ggtggcaggg atctatctaa tgtggaggca 950  
cgaaaggatc aagaagactt ccttttctac caccacacta ctgccccca 1000  
ttaaggttct tgtggtttac ccactgaaa tatgtttcca tcacacaatt 1050  
tgttacttca ctgaatttct tcaaaacat tgcagaagtg aggtcatcct 1100  
tgaaaagtgg cagaaaaaga aaatagcaga gatgggtcca gtgcagtggc 1150  
ttgccactca aaagaaggca gcagacaaag tcgtcttcct tctttccaat 1200  
gacgtcaaca gtgtgtgcga tggtagctgt ggcaagagcg agggcagtcc 1250  
cagtgagaac tctcaagacc tcttccccct tgcctttaac cttttctgca 1300  
gtgatctaag aagccagatt catctgcaca aatacgtggg ggtctacttt 1350

. agagagattg atacaaaaga cgattacaat gctctcagtg tctgccccaa 1400  
 gtaccacctc atgaaggatg ccactgcttt ctgtgcagaa cttctccatg 1450  
 tcaagcagca ggtgtcagca ggaaaaagat cacaagcctg ccacgatggc 1500  
 tgctgctcct tgtag 1515

<210> 12  
 <211> 502  
 <212> PRT  
 <213> Homo Sapien

<400> 12  
 Met Ser Leu Val Leu Leu Ser Leu Ala Ala Leu Cys Arg Ser Ala  
 1 5 10 15  
 Val Pro Arg Glu Pro Thr Val Gln Cys Gly Ser Glu Thr Gly Pro  
 20 25 30  
 Ser Pro Glu Trp Met Leu Gln His Asp Leu Ile Pro Gly Asp Leu  
 35 40 45  
 Arg Asp Leu Arg Val Glu Pro Val Thr Thr Ser Val Ala Thr Gly  
 50 55 60  
 Asp Tyr Ser Ile Leu Met Asn Val Ser Trp Val Leu Arg Ala Asp  
 65 70 75  
 Ala Ser Ile Arg Leu Leu Lys Ala Thr Lys Ile Cys Val Thr Gly  
 80 85 90  
 Lys Ser Asn Phe Gln Ser Tyr Ser Cys Val Arg Cys Asn Tyr Thr  
 95 100 105  
 Glu Ala Phe Gln Thr Gln Thr Arg Pro Ser Gly Gly Lys Trp Thr  
 110 115 120  
 Phe Ser Tyr Ile Gly Phe Pro Val Glu Leu Asn Thr Val Tyr Phe  
 125 130 135  
 Ile Gly Ala His Asn Ile Pro Asn Ala Asn Met Asn Glu Asp Gly  
 140 145 150  
 Pro Ser Met Ser Val Asn Phe Thr Ser Pro Gly Cys Leu Asp His  
 155 160 165  
 Ile Met Lys Tyr Lys Lys Lys Cys Val Lys Ala Gly Ser Leu Trp  
 170 175 180  
 Asp Pro Asn Ile Thr Ala Cys Lys Lys Asn Glu Glu Thr Val Glu  
 185 190 195  
 Val Asn Phe Thr Thr Thr Pro Leu Gly Asn Arg Tyr Met Ala Leu  
 200 205 210  
 Ile Gln His Ser Thr Ile Ile Gly Phe Ser Gln Val Phe Glu Pro  
 215 220 225

His	Gln	Lys	Lys	Gln	Thr	Arg	Ala	Ser	Val	Val	Ile	Pro	Val	Thr	
				230					235					240	
Gly	Asp	Ser	Glu	Gly	Ala	Thr	Val	Gln	Leu	Thr	Pro	Tyr	Phe	Pro	
				245					250					255	
Thr	Cys	Gly	Ser	Asp	Cys	Ile	Arg	His	Lys	Gly	Thr	Val	Val	Leu	
				260					265					270	
Cys	Pro	Gln	Thr	Gly	Val	Pro	Phe	Pro	Leu	Asp	Asn	Asn	Lys	Ser	
				275					280					285	
Lys	Pro	Gly	Gly	Trp	Leu	Pro	Leu	Leu	Leu	Leu	Ser	Leu	Leu	Val	
				290					295					300	
Ala	Thr	Trp	Val	Leu	Val	Ala	Gly	Ile	Tyr	Leu	Met	Trp	Arg	His	
				305					310					315	
Glu	Arg	Ile	Lys	Lys	Thr	Ser	Phe	Ser	Thr	Thr	Thr	Leu	Leu	Pro	
				320					325					330	
Pro	Ile	Lys	Val	Leu	Val	Val	Tyr	Pro	Ser	Glu	Ile	Cys	Phe	His	
				335					340					345	
His	Thr	Ile	Cys	Tyr	Phe	Thr	Glu	Phe	Leu	Gln	Asn	His	Cys	Arg	
				350					355					360	
Ser	Glu	Val	Ile	Leu	Glu	Lys	Trp	Gln	Lys	Lys	Lys	Ile	Ala	Glu	
				365					370					375	
Met	Gly	Pro	Val	Gln	Trp	Leu	Ala	Thr	Gln	Lys	Lys	Ala	Ala	Asp	
				380					385					390	
Lys	Val	Val	Phe	Leu	Leu	Ser	Asn	Asp	Val	Asn	Ser	Val	Cys	Asp	
				395					400					405	
Gly	Thr	Cys	Gly	Lys	Ser	Glu	Gly	Ser	Pro	Ser	Glu	Asn	Ser	Gln	
				410					415					420	
Asp	Leu	Phe	Pro	Leu	Ala	Phe	Asn	Leu	Phe	Cys	Ser	Asp	Leu	Arg	
				425					430					435	
Ser	Gln	Ile	His	Leu	His	Lys	Tyr	Val	Val	Val	Tyr	Phe	Arg	Glu	
				440					445					450	
Ile	Asp	Thr	Lys	Asp	Asp	Tyr	Asn	Ala	Leu	Ser	Val	Cys	Pro	Lys	
				455					460					465	
Tyr	His	Leu	Met	Lys	Asp	Ala	Thr	Ala	Phe	Cys	Ala	Glu	Leu	Leu	
				470					475					480	
His	Val	Lys	Gln	Gln	Val	Ser	Ala	Gly	Lys	Arg	Ser	Gln	Ala	Cys	
				485					490					495	
His	Asp	Gly	Cys	Cys	Ser	Leu									
				500											

<210> 13

<211> 2380  
<212> DNA  
<213> Homo Sapien

<400> 13  
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gtcaggactc ccaggacaga gagtgcacaa actaccacgc acagccccct 100  
ccgccccctc tggaggctga agagggattc cagccccctgc caccacaga 150  
cacgggctga ctgggggtgc tgccccctt gggggggggc agcacagggc 200  
ctcaggcctg ggtgccacct ggcacctaga agatgcctgt gccctgggtc 250  
ttgctgtcct tggcactggg ccgaagccca gtggtccttt ctctggagag 300  
gcttggtggg cctcaggacg ctaccactg ctctccgggc ctctcctgcc 350  
gcctctggga cagtgcata ctctgcctgc ctggggacat cgtgcctgct 400  
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gtgccagaag gagaccgact gtgacctctg tctgcgtgtg gctgtccact 500  
tggccgtgca tgggcactgg gaagagcctg aagatgagga aaagtttggg 550  
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ctggtcctat actcagccca ggtacgagaa ggaactcaac cacacacagc 800  
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ctggaatcag gtccagggcc ccccaaaacc ccggtggcac aaaaacctga 950  
ctggaccgca gatcattacc ttgaaccaca cagacctggt tccctgcctc 1000  
tgtattcagg tgtggcctct ggaacctgac tccgttagga cgaacatctg 1050  
ccccttcagg gaggaccccc gcgcacacca gaacctctgg caagccgccc 1100  
gactgcgact gctgacctg cagagctggc tgctggacgc accgtgctcg 1150  
ctgcccgcag aagcggcact gtgctggcgg gctccgggtg gggaccctg 1200  
ccagccactg gtcccacgc tttcctggga gaacgtcact gtggacaagg 1250  
ttctcgagtt ccattgctg aaaggccacc ctaacctctg tgttcagggtg 1300  
aacagctcgg agaagctgca gctgcaggag tgcttggtgg ctgactccct 1350

ggggcctctc aaagacgatg tgctactgtt ggagacacga ggcccccagg 1400  
 acaacagatc cctctgtgcc ttggaacca gtggctgtac ttcactaccc 1450  
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 cctgcagtca ggccagtgtc tgcagctatg ggacgatgac ttgggagcgc 1550  
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 gcgcgcaggg gcccggtggt tggtttcacg cgcagcggcg ccagaccctg 1900  
 caggagggcg gcgtgggtgt cttgctcttc tctcccggtg cgggtggcgt 1950  
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 cagggccggg cgcccgccag ctacgtgggg gcctgcttcg acaggctgct 2100  
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 ccgcgttcg ggcggtcca agagagagcg gagcaagtgt cccgggccct 2250  
 tcagccagcc ctggatagct acttccatcc cccggggact cccgcgccgg 2300  
 gacgcggggg gggaccagg gcgggacctg gggcggggga cgggacttaa 2350  
 ataaaggcag acgctgtttt tctaaaaaaa 2380

<210> 14  
 <211> 705  
 <212> PRT  
 <213> Homo Sapien

<400> 14  
 Met Pro Val Pro Trp Phe Leu Leu Ser Leu Ala Leu Gly Arg Ser  
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 Pro Val Val Leu Ser Leu Glu Arg Leu Val Gly Pro Gln Asp Ala  
 20 25 30  
 Thr His Cys Ser Pro Gly Leu Ser Cys Arg Leu Trp Asp Ser Asp  
 35 40 45  
 Ile Leu Cys Leu Pro Gly Asp Ile Val Pro Ala Pro Gly Pro Val

	50		55		60
Leu Ala Pro Thr	His Leu Gln Thr Glu	Leu Val Leu Arg Cys Gln			
	65	70			75
Lys Glu Thr Asp	Cys Asp Leu Cys Leu Arg	Val Ala Val His Leu			
	80	85			90
Ala Val His Gly	His Trp Glu Glu Pro Glu	Asp Glu Glu Lys Phe			
	95	100			105
Gly Gly Ala Ala	Asp Ser Gly Val Glu	Glu Pro Arg Asn Ala Ser			
	110	115			120
Leu Gln Ala Gln	Val Val Leu Ser Phe	Gln Ala Tyr Pro Thr Ala			
	125	130			135
Arg Cys Val Leu	Leu Glu Val Gln Val	Pro Ala Ala Leu Val Gln			
	140	145			150
Phe Gly Gln Ser	Val Gly Ser Val Val	Tyr Asp Cys Phe Glu Ala			
	155	160			165
Ala Leu Gly Ser	Glu Val Arg Ile Trp	Ser Tyr Thr Gln Pro Arg			
	170	175			180
Tyr Glu Lys Glu	Leu Asn His Thr Gln	Gln Leu Pro Ala Leu Pro			
	185	190			195
Trp Leu Asn Val	Ser Ala Asp Gly Asp	Asn Val His Leu Val Leu			
	200	205			210
Asn Val Ser Glu	Glu Gln His Phe Gly	Leu Ser Leu Tyr Trp Asn			
	215	220			225
Gln Val Gln Gly	Pro Pro Lys Pro Arg	Trp His Lys Asn Leu Thr			
	230	235			240
Gly Pro Gln Ile	Ile Thr Leu Asn His	Thr Asp Leu Val Pro Cys			
	245	250			255
Leu Cys Ile Gln	Val Trp Pro Leu Glu	Pro Asp Ser Val Arg Thr			
	260	265			270
Asn Ile Cys Pro	Phe Arg Glu Asp Pro	Arg Ala His Gln Asn Leu			
	275	280			285
Trp Gln Ala Ala	Arg Leu Arg Leu Leu	Thr Leu Gln Ser Trp Leu			
	290	295			300
Leu Asp Ala Pro	Cys Ser Leu Pro Ala	Glu Ala Ala Leu Cys Trp			
	305	310			315
Arg Ala Pro Gly	Gly Asp Pro Cys Gln	Pro Leu Val Pro Pro Leu			
	320	325			330
Ser Trp Glu Asn	Val Thr Val Asp Lys	Val Leu Glu Phe Pro Leu			
	335	340			345

Leu	Lys	Gly	His	Pro	Asn	Leu	Cys	Val	Gln	Val	Asn	Ser	Ser	Glu	350	355	360
Lys	Leu	Gln	Leu	Gln	Glu	Cys	Leu	Trp	Ala	Asp	Ser	Leu	Gly	Pro	365	370	375
Leu	Lys	Asp	Asp	Val	Leu	Leu	Leu	Glu	Thr	Arg	Gly	Pro	Gln	Asp	380	385	390
Asn	Arg	Ser	Leu	Cys	Ala	Leu	Glu	Pro	Ser	Gly	Cys	Thr	Ser	Leu	395	400	405
Pro	Ser	Lys	Ala	Ser	Thr	Arg	Ala	Ala	Arg	Leu	Gly	Glu	Tyr	Leu	410	415	420
Leu	Gln	Asp	Leu	Gln	Ser	Gly	Gln	Cys	Leu	Gln	Leu	Trp	Asp	Asp	425	430	435
Asp	Leu	Gly	Ala	Leu	Trp	Ala	Cys	Pro	Met	Asp	Lys	Tyr	Ile	His	440	445	450
Lys	Arg	Trp	Ala	Leu	Val	Trp	Leu	Ala	Cys	Leu	Leu	Phe	Ala	Ala	455	460	465
Ala	Leu	Ser	Leu	Ile	Leu	Leu	Leu	Lys	Lys	Asp	His	Ala	Lys	Gly	470	475	480
Trp	Leu	Arg	Leu	Leu	Lys	Gln	Asp	Val	Arg	Ser	Gly	Ala	Ala	Ala	485	490	495
Arg	Gly	Arg	Ala	Ala	Leu	Leu	Leu	Tyr	Ser	Ala	Asp	Asp	Ser	Gly	500	505	510
Phe	Glu	Arg	Leu	Val	Gly	Ala	Leu	Ala	Ser	Ala	Leu	Cys	Gln	Leu	515	520	525
Pro	Leu	Arg	Val	Ala	Val	Asp	Leu	Trp	Ser	Arg	Arg	Glu	Leu	Ser	530	535	540
Ala	Gln	Gly	Pro	Val	Ala	Trp	Phe	His	Ala	Gln	Arg	Arg	Gln	Thr	545	550	555
Leu	Gln	Glu	Gly	Gly	Val	Val	Val	Leu	Leu	Phe	Ser	Pro	Gly	Ala	560	565	570
Val	Ala	Leu	Cys	Ser	Glu	Trp	Leu	Gln	Asp	Gly	Val	Ser	Gly	Pro	575	580	585
Gly	Ala	His	Gly	Pro	His	Asp	Ala	Phe	Arg	Ala	Ser	Leu	Ser	Cys	590	595	600
Val	Leu	Pro	Asp	Phe	Leu	Gln	Gly	Arg	Ala	Pro	Gly	Ser	Tyr	Val	605	610	615
Gly	Ala	Cys	Phe	Asp	Arg	Leu	Leu	His	Pro	Asp	Ala	Val	Pro	Ala	620	625	630
Leu	Phe	Arg	Thr	Val	Pro	Val	Phe	Thr	Leu	Pro	Ser	Gln	Leu	Pro			

635	640	645
Asp Phe Leu Gly Ala Leu Gln Gln Pro Arg Ala Pro Arg Ser Gly		
650	655	660
Arg Leu Gln Glu Arg Ala Glu Gln Val Ser Arg Ala Leu Gln Pro		
665	670	675
Ala Leu Asp Ser Tyr Phe His Pro Pro Gly Thr Pro Ala Pro Gly		
680	685	690
Arg Gly Val Gly Pro Gly Ala Gly Pro Gly Ala Gly Asp Gly Thr		
695	700	705

<210> 15  
 <211> 2138  
 <212> DNA  
 <213> Homo Sapien

<400> 15  
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 acccaccttc aggccatgca gccatgttcc gggagcccta attgcacaga 100  
 agcccatggg gagctccaga ctggcagccc tgctcctgcc tctcctctc 150  
 atagtcatcg acctctctga ctctgctggg attggctttc gccacctgcc 200  
 ccaactggaac acccgctgtc ctctggcctc ccacacggat gacagtttca 250  
 ctggaagttc tgcttatatc ccttgccgca cctggtgggc cctcttctcc 300  
 acaaagcctt ggtgtgtgcg agtctggcac tgttcccgt gtttgtgcca 350  
 gcatctgctg tcaggtggct caggtcttca acggggcctc ttccacctcc 400  
 tgggtgcagaa atccaaaaag tcttccacat tcaagttcta taggagacac 450  
 aagatgccag cacctgctca gaggaagctg ctgcctcgtc gtcacctgtc 500  
 tgagaagagc catcacattt ccatcccctc ccagacatc tcccacaagg 550  
 gacttcgctc taaaaggacc caaccttcgg atccagagac atgggaaagt 600  
 cttccagat tggactcaca aaggcatgga ggacccgagt tctcctttga 650  
 tttgctgcct gagggccggg ctattcgggt gaccatatct tcaggccctg 700  
 aggtcagcgt gcgtctttgt caccagtggg cactggagtg tgaagagctg 750  
 agcagtcctt atgatgtcca gaaaattgtg tctggggggc aactgtaga 800  
 gctgccttat gaattccttc tgccctgtct gtgcatagag gcacccctacc 850  
 tgcaagagga cactgtgagg cgcaaaaaat gtcccttcca gagctggcca 900  
 gaagcctatg gctcggactt ctggaagtca gtgcattca ctgactacag 950

ccagcacact. cagatggtca tggccctgac actccgctgc ccactgaagc 1000  
 tggaagctgc cctctgccag aggcacgact ggcataccct ttgcaaagac 1050  
 ctcccgaatg ccacggctcg agagtcagat ggggtggtatg ttttgagaa 1100  
 ggtggacctg cccccccagc tctgcttcaa gttctctttt ggaaacagca 1150  
 gccatgttga atgccccac cagactgggt ctctcacatc ctggaatgta 1200  
 agcatggata cccaagccca gcagctgatt cttcacttct cctcaagaat 1250  
 gcatgccacc ttcagtgtcg cctggagcct ccagaggctg gggcaggaca 1300  
 ctttggtgcc ccccggttac actgtcagcc agggccgggg ctcaagccca 1350  
 gtgtcactag acctcatcat tcccttcctg aggccagggt gctgtgtcct 1400  
 ggtgtggcgg tcagatgtcc agtttgctcg gaagcacctc ttgtgtccag 1450  
 atgtctctta cagacacctg gggctcttga tcctggcact gctggccctc 1500  
 ctcaccctac tgggtgttgt tctggccctc acctgccggc gccacagtc 1550  
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 ggcgcgcgctg ggcccgtgc cgtggctctg ggcgggcgcg acgcgcgtag 1750  
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 ccggtcagcg gccccgacc ccgcgcgcg cccctgctcg cctgctcca 1850  
 cgctgccccg cgcccgtgc tgetgctgc ttacttcagt cgcctctgcg 1900  
 ccaagggcga catcccccg ccgctgcgcg cctgcccgcg ctaccgcctg 1950  
 ctgcgcgacc tgccgctct gctgcggcg ctggacgcgc ggcctttcgc 2000  
 agaggccacc agctggggcc gccttggggc gcggcagcgc aggcagagcc 2050  
 gcctagagct gtgcagccgg cttgaacgag aggcgccccg acttgacagc 2100  
 ctaggttgag cagagctcca ccgcagtccc ggggtgtct 2138

<210> 16

<211> 667

<212> PRT

<213> Homo Sapien

<400> 16

Met	Gly	Ser	Ser	Arg	Leu	Ala	Ala	Leu	Leu	Leu	Pro	Leu	Leu	Leu
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Ile Val Ile Asp Leu Ser Asp Ser Ala Gly Ile Gly Phe Arg His

20										25					30				
Leu	Pro	His	Trp	Asn	Thr	Arg	Cys	Pro	Leu	Ala	Ser	His	Thr	Asp					
				35					40					45					
Asp	Ser	Phe	Thr	Gly	Ser	Ser	Ala	Tyr	Ile	Pro	Cys	Arg	Thr	Trp					
				50					55					60					
Trp	Ala	Leu	Phe	Ser	Thr	Lys	Pro	Trp	Cys	Val	Arg	Val	Trp	His					
				65					70					75					
Cys	Ser	Arg	Cys	Leu	Cys	Gln	His	Leu	Leu	Ser	Gly	Gly	Ser	Gly					
				80					85					90					
Leu	Gln	Arg	Gly	Leu	Phe	His	Leu	Leu	Val	Gln	Lys	Ser	Lys	Lys					
				95					100					105					
Ser	Ser	Thr	Phe	Lys	Phe	Tyr	Arg	Arg	His	Lys	Met	Pro	Ala	Pro					
				110					115					120					
Ala	Gln	Arg	Lys	Leu	Leu	Pro	Arg	Arg	His	Leu	Ser	Glu	Lys	Ser					
				125					130					135					
His	His	Ile	Ser	Ile	Pro	Ser	Pro	Asp	Ile	Ser	His	Lys	Gly	Leu					
				140					145					150					
Arg	Ser	Lys	Arg	Thr	Gln	Pro	Ser	Asp	Pro	Glu	Thr	Trp	Glu	Ser					
				155					160					165					
Leu	Pro	Arg	Leu	Asp	Ser	Gln	Arg	His	Gly	Gly	Pro	Glu	Phe	Ser					
				170					175					180					
Phe	Asp	Leu	Leu	Pro	Glu	Ala	Arg	Ala	Ile	Arg	Val	Thr	Ile	Ser					
				185					190					195					
Ser	Gly	Pro	Glu	Val	Ser	Val	Arg	Leu	Cys	His	Gln	Trp	Ala	Leu					
				200					205					210					
Glu	Cys	Glu	Glu	Leu	Ser	Ser	Pro	Tyr	Asp	Val	Gln	Lys	Ile	Val					
				215					220					225					
Ser	Gly	Gly	His	Thr	Val	Glu	Leu	Pro	Tyr	Glu	Phe	Leu	Leu	Pro					
				230					235					240					
Cys	Leu	Cys	Ile	Glu	Ala	Ser	Tyr	Leu	Gln	Glu	Asp	Thr	Val	Arg					
				245					250					255					
Arg	Lys	Lys	Cys	Pro	Phe	Gln	Ser	Trp	Pro	Glu	Ala	Tyr	Gly	Ser					
				260					265					270					
Asp	Phe	Trp	Lys	Ser	Val	His	Phe	Thr	Asp	Tyr	Ser	Gln	His	Thr					
				275					280					285					
Gln	Met	Val	Met	Ala	Leu	Thr	Leu	Arg	Cys	Pro	Leu	Lys	Leu	Glu					
				290					295					300					
Ala	Ala	Leu	Cys	Gln	Arg	His	Asp	Trp	His	Thr	Leu	Cys	Lys	Asp					
				305					310					315					

Leu Pro Asn Ala Thr Ala Arg Glu Ser Asp Gly Trp Tyr Val Leu	320	325	330
Glu Lys Val Asp Leu His Pro Gln Leu Cys Phe Lys Phe Ser Phe	335	340	345
Gly Asn Ser Ser His Val Glu Cys Pro His Gln Thr Gly Ser Leu	350	355	360
Thr Ser Trp Asn Val Ser Met Asp Thr Gln Ala Gln Gln Leu Ile	365	370	375
Leu His Phe Ser Ser Arg Met His Ala Thr Phe Ser Ala Ala Trp	380	385	390
Ser Leu Pro Gly Leu Gly Gln Asp Thr Leu Val Pro Pro Val Tyr	395	400	405
Thr Val Ser Gln Ala Arg Gly Ser Ser Pro Val Ser Leu Asp Leu	410	415	420
Ile Ile Pro Phe Leu Arg Pro Gly Cys Cys Val Leu Val Trp Arg	425	430	435
Ser Asp Val Gln Phe Ala Trp Lys His Leu Leu Cys Pro Asp Val	440	445	450
Ser Tyr Arg His Leu Gly Leu Leu Ile Leu Ala Leu Leu Ala Leu	455	460	465
Leu Thr Leu Leu Gly Val Val Leu Ala Leu Thr Cys Arg Arg Pro	470	475	480
Gln Ser Gly Pro Gly Pro Ala Arg Pro Val Leu Leu Leu His Ala	485	490	495
Ala Asp Ser Glu Ala Gln Arg Arg Leu Val Gly Ala Leu Ala Glu	500	505	510
Leu Leu Arg Ala Ala Leu Gly Gly Gly Arg Asp Val Ile Val Asp	515	520	525
Leu Trp Glu Gly Arg His Val Ala Arg Val Gly Pro Leu Pro Trp	530	535	540
Leu Trp Ala Ala Arg Thr Arg Val Ala Arg Glu Gln Gly Thr Val	545	550	555
Leu Leu Leu Trp Ser Gly Ala Asp Leu Arg Pro Val Ser Gly Pro	560	565	570
Asp Pro Arg Ala Ala Pro Leu Leu Ala Leu Leu His Ala Ala Pro	575	580	585
Arg Pro Leu Leu Leu Leu Ala Tyr Phe Ser Arg Leu Cys Ala Lys	590	595	600
Gly Asp Ile Pro Pro Pro Leu Arg Ala Leu Pro Arg Tyr Arg Leu			

605	610	615
Leu Arg Asp Leu Pro Arg Leu Leu Arg	Ala Leu Asp Ala Arg Pro	
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Phe Ala Glu Ala Thr Ser Trp Gly Arg	Leu Gly Ala Arg Gln Arg	
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Arg Gln Ser Arg Leu Glu Leu Cys Ser	Arg Leu Glu Arg Glu Ala	
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Ala Arg Leu Ala Asp Leu Gly		
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 cgttgtttgt cagtggagag caggggagtgg ggccagccag cagaaacagt 150  
 gggctgtaca acatcacctt caaatatgac aattgtacca cctacttgaa 200  
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 gaagtccggag ggaagacagt gccacaact gattctaaag gatccgaagc 400  
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 aatatgaaat ttgaaacgga ttatttcgta aaggttgtcc cttttccttc 500  
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gagtcttcca catacactgc agcactccca agagagaggc tccggccgcg 1100  
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<211> 728

<212> PRT  
<213> Homo Sapien

<400> 18

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Gly	Glu	Gln	Gly	Val	Gly	Pro	Ala	Ser	Arg	Asn	Ser	Gly	Leu	Tyr	20	25	30	
Asn	Ile	Thr	Phe	Lys	Tyr	Asp	Asn	Cys	Thr	Thr	Tyr	Leu	Asn	Pro	35	40	45	
Val	Gly	Lys	His	Val	Ile	Ala	Asp	Ala	Gln	Asn	Ile	Thr	Ile	Ser	50	55	60	
Gln	Tyr	Ala	Cys	His	Asp	Gln	Val	Ala	Val	Thr	Ile	Leu	Trp	Ser	65	70	75	
Pro	Gly	Ala	Leu	Gly	Ile	Glu	Phe	Leu	Lys	Gly	Phe	Arg	Val	Ile	80	85	90	
Leu	Glu	Glu	Leu	Lys	Ser	Glu	Gly	Arg	Gln	Cys	Gln	Gln	Leu	Ile	95	100	105	
Leu	Lys	Asp	Pro	Lys	Gln	Leu	Asn	Ser	Ser	Phe	Lys	Arg	Thr	Gly	110	115	120	
Met	Glu	Ser	Gln	Pro	Phe	Leu	Asn	Met	Lys	Phe	Glu	Thr	Asp	Tyr	125	130	135	
Phe	Val	Lys	Val	Val	Pro	Phe	Pro	Ser	Ile	Lys	Asn	Glu	Ser	Asn	140	145	150	
Tyr	His	Pro	Phe	Phe	Phe	Arg	Thr	Arg	Ala	Cys	Asp	Leu	Leu	Leu	155	160	165	
Gln	Pro	Asp	Asn	Leu	Ala	Cys	Lys	Pro	Phe	Trp	Lys	Pro	Arg	Asn	170	175	180	
Leu	Asn	Ile	Ser	Gln	His	Gly	Ser	Asp	Met	Gln	Val	Ser	Phe	Asp	185	190	195	
His	Ala	Pro	His	Gly	Ser	Asp	Met	Gln	Val	Ser	Phe	Asp	His	Ala	200	205	210	
Pro	His	Asn	Phe	Gly	Phe	Arg	Phe	Phe	Tyr	Leu	His	Tyr	Lys	Leu	215	220	225	
Lys	His	Glu	Gly	Pro	Phe	Lys	Arg	Lys	Thr	Cys	Lys	Gln	Glu	Gln	230	235	240	
Thr	Thr	Glu	Met	Thr	Ser	Cys	Leu	Leu	Gln	Asn	Val	Ser	Pro	Gly	245	250	255	
Asp	Tyr	Ile	Ile	Glu	Leu	Val	Asp	Asp	Thr	Asn	Thr	Thr	Arg	Lys	260	265	270	

Val Met His Tyr	Ala Leu Lys Pro Val	His Ser Pro Trp	Ala Gly
	275	280	285
Pro Ile Arg Ala	Val Ala Ile Thr Val	Pro Leu Val Val	Ile Ser
	290	295	300
Ala Phe Ala Thr	Leu Phe Thr Val Met	Cys Arg Lys Lys	Gln Gln
	305	310	315
Glu Asn Ile Tyr	Ser His Leu Asp Glu	Glu Ser Ser Glu	Ser Ser
	320	325	330
Thr Tyr Thr Ala	Ala Leu Pro Arg Glu	Arg Leu Arg Pro	Arg Pro
	335	340	345
Lys Val Phe Leu	Cys Tyr Ser Ser Lys	Asp Gly Gln Asn	His Met
	350	355	360
Asn Val Val Gln	Cys Phe Ala Tyr Phe	Leu Gln Asp Phe	Cys Gly
	365	370	375
Cys Glu Val Ala	Leu Asp Leu Trp Glu	Asp Phe Ser Leu	Cys Arg
	380	385	390
Glu Gly Gln Arg	Glu Trp Val Ile Gln	Lys Ile His Glu	Ser Gln
	395	400	405
Phe Ile Ile Val	Val Cys Ser Lys Gly	Met Lys Tyr Phe	Val Asp
	410	415	420
Lys Lys Asn Tyr	Lys His Lys Gly Gly	Gly Arg Gly Ser	Gly Lys
	425	430	435
Gly Glu Leu Phe	Leu Val Ala Val Ser	Ala Ile Ala Glu	Lys Leu
	440	445	450
Arg Gln Ala Lys	Gln Ser Ser Ser Ala	Ala Leu Ser Lys	Phe Ile
	455	460	465
Ala Val Tyr Phe	Asp Tyr Ser Cys Glu	Gly Asp Val Pro	Gly Ile
	470	475	480
Leu Asp Leu Ser	Thr Lys Tyr Arg Leu	Met Asp Asn Leu	Pro Gln
	485	490	495
Leu Cys Ser His	Leu His Ser Arg Asp	His Gly Leu Gln	Glu Pro
	500	505	510
Gly Gln His Thr	Arg Gln Gly Ser Arg	Arg Asn Tyr Phe	Arg Ser
	515	520	525
Lys Ser Gly Arg	Ser Leu Tyr Val Ala	Ile Cys Asn Met	His Gln
	530	535	540
Phe Ile Asp Glu	Glu Pro Asp Trp Phe	Glu Lys Gln Phe	Val Pro
	545	550	555
Phe His Pro Pro	Pro Leu Arg Tyr Arg	Glu Pro Val Leu	Glu Lys

560.										565					570				
Phe	Asp	Ser	Gly	Leu	Val	Leu	Asn	Asp	Val	Met	Cys	Lys	Pro	Gly					
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Pro	Glu	Ser	Asp	Phe	Cys	Leu	Lys	Val	Glu	Ala	Ala	Val	Leu	Gly					
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Ala	Thr	Gly	Pro	Ala	Asp	Ser	Gln	His	Glu	Ser	Gln	His	Gly	Gly					
				605					610					615					
Leu	Asp	Gln	Asp	Gly	Glu	Ala	Arg	Pro	Ala	Leu	Asp	Gly	Ser	Ala					
				620					625					630					
Ala	Leu	Gln	Pro	Leu	Leu	His	Thr	Val	Lys	Ala	Gly	Ser	Pro	Ser					
				635					640					645					
Asp	Met	Pro	Arg	Asp	Ser	Gly	Ile	Tyr	Asp	Ser	Ser	Val	Pro	Ser					
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Ser	Glu	Leu	Ser	Leu	Pro	Leu	Met	Glu	Gly	Leu	Ser	Thr	Asp	Gln					
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Thr	Glu	Thr	Ser	Ser	Leu	Thr	Glu	Ser	Val	Ser	Ser	Ser	Ser	Gly					
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Leu	Gly	Glu	Glu	Glu	Pro	Pro	Ala	Leu	Pro	Ser	Lys	Leu	Leu	Ser					
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Ser	Gly	Ser	Cys	Lys	Ala	Asp	Leu	Gly	Cys	Arg	Ser	Tyr	Thr	Asp					
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<210> 20  
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